

Amendments to the Claims:

1. (Currently Amended) A seal intended for sealing an axis pair in connection with a fluid measurement, the axis pair including an outer element coaxially arranged with and configured to surround an inner element, with the inner and outer elements being configured to share a common axis, whereby the inner and outer elements ~~axes~~ rotate in the same direction, ~~the inner one of the axes is inside the outer axis and the~~ a phase difference ~~[[of]]~~ between the inner and outer elements ~~axes~~ is arranged to remain within predefined limits, wherein

the seal is a tubular seal made of an elastic material;

the seal comprises at least two tube sections fixed to each other;

folds of the at least two tube sections have opposing twisting angles;

one end of the seal is fastened to the outer element ~~axis~~ and the other end is fastened to the inner element ~~axis~~; and

the seal is arranged to twist by a torque proportional to the phase difference between the inner and outer elements ~~axes~~.

2. (Currently Amended) A seal as claimed in claim 1, wherein at least one tube section of the seal is inside at least one other tube section so that the tube section which is inside and the end of which forms one end of the seal can be fastened to the inner element ~~axis~~ and the other end of the seal can be fastened to the outer element ~~axis~~.

3. (Previously Presented) A seal as claimed in claim 1, wherein the tube sections of the seal are in successive order, whereby each tube section increases the length of the seal by its own length.

4. (Previously Presented) A seal as claimed in claim 1, wherein the materials of the at least two tube sections differ from each other.

5. (Previously Presented) A seal as claimed in claim 1, wherein the wall thicknesses of the at least two tube sections differ from each other.

6. (Previously Presented) A seal as claimed in claim 1, wherein the lengths of the at least two tube sections differ from each other.

7. (Previously Presented) A seal as claimed in claim 1, wherein the heights of the folds of the at least two tube sections differ from each other.

8. (Previously Presented) A seal as claimed in claim 1, wherein the numbers of folds of the at least two tube sections differ from each other.

9. (Currently Amended) A measuring device comprising an axis pair rotating in the same direction, the axis pair including an outer element coaxially arranged with and configured to surround an inner element, with the inner and outer elements being configured to share a common axis ~~the inner axis being inside the outer axis~~;  
the measuring device comprises a seal intended for sealing the inner and outer elements ~~axis pair~~;  
the measuring device is arranged to determine a property of a fluid to be measured when the fluid causes a phase difference between the inner and outer elements ~~axes~~ by the torque it has produced, wherein

the seal is a tubular seal made of an elastic material;

the seal comprises at least two tube sections fixed to each other;

folds of the at least two tube sections have opposing twisting angles;

one end of the seal is fastened to the outer element ~~axis~~ and the other end is fastened to the inner element ~~axis~~; and

the seal is arranged to twist by a torque proportional to the phase difference between the inner and outer elements ~~axes~~.

10. (Currently Amended) A measuring device as claimed in claim 9, wherein the measuring device is arranged to determine the torque of the seal on the basis of the phase difference between the inner and outer elements axes as a linear function; the measuring device is arranged to determine the fluid property on the basis of the torque of the seal.

11. (Currently Amended) A measuring device as claimed in claim 9, wherein at least one tube section of the seal is inside at least one other tube section so that the tube section which is inside and the end of which forms one end of the seal is fastened to the inner element axis and the other end of the seal is fastened to the outer element axis.

12. (Previously Presented) A measuring device as claimed in claim 9, wherein the ends of the seal are arranged so that they do not twist with respect to each other.

13. (Currently Amended) A measuring method, wherein a property of a fluid is measured on the basis of a phase difference between an outer element coaxially arranged with and configured to surround an inner element, with the inner and outer elements being configured to share a common axis ~~two axes within each other~~ and to rotate ~~rotating~~ in the same direction, the phase difference being produced by the torque between the inner and outer elements axes the fluid has caused, comprising

producing by ~~means of~~ a seal, which is a tubular seal made of an elastic material and comprising at least two tube sections fixed to each other, a torque twisting in the opposite direction than the torque caused by the fluid between the inner and outer elements axes and being proportional to the phase difference between the inner and outer elements axes; wherein

each tube section comprises at least one fold;

the folds of the at least two tube sections have opposing twisting angles;

one end of the seal is fastened to the outer element axis and the other end is fastened to the inner element axis;

the phase difference between the inner and outer elements axes is measured; and

the fluid property is determined on the basis of the phase difference.

14. (Currently Amended) A method as claimed in claim 13, furthering comprising determining the torque of the seal on the basis of the phase difference between the inner and outer elements axes by means of a linear function, and determining the fluid property on the basis of the determined torque of the seal.

15. (Currently Amended) A seal manufacturing method, wherein the seal is intended for sealing an axis pair of a measuring device, the axis pair including an outer element coaxially arranged with and configured to surround an inner element, with the inner and outer elements being configured to share a common axis and to ~~whereby the axes~~ rotate in the same direction, ~~the inner one of the axes is inside the outer axis and the~~ a phase difference ~~[[of]]~~ between the inner and outer elements axes is arranged to remain within predetermined limits, comprising

making a tubular seal of an elastic material;

providing the seal with at least two tube sections;

providing each tube section with at least one fold, ~~the~~ a twisting angle of which differs from the direction of the longitudinal axis of the tubular seal;

providing the at least two tube sections with folds having opposing twisting angles to make the torque caused by the twisting of the seal during the measurement proportional to the phase difference between the inner and outer elements axes;

providing the seal ends with fastening parts, by which the seal can be fastened to the inner and outer elements axis-pairs in such a manner that one end of the seal is fastened to the outer element axis and the other end is fastened to the inner element axis.

16. (Previously Presented) A method as claimed in claim 15, further comprising manufacturing the tube sections separately and fixing the tube sections to each other to form a continuous seal.

Appl. No.: 10/582,738

Amdt. dated October 22, 2009

Reply to Office Action of July 23, 2009

17. (Currently Amended) A method as claimed in claim 15, further comprising placing at least one tube section of the seal inside at least one other tube section, whereby the tube section which is inside and the end of which forms one end of the seal can be fastened to the inner element axis and the other end of the seal can be fastened to the outer element axis.